

**REMARKS / ARGUMENTS**

**I. General Remarks and Disposition of the Claims**

Applicants hereby request continued examination of this application, in accordance with 37 C.F.R. § 1.114. Applicants respectfully request consideration of the claims in light of the amendments and remarks contained herein.

At the time of the Final Office Action, claims 1-6, 8-13, 15-18, 20-23, and 25-28 were pending. Claims 1-6, 8-13, 15-18, 20-23, and 25-28 stand rejected. By this paper, Applicants have amended claims 1, 8, 9, 15, and 20, cancelled claims 26-28, and added claims 29-36. Applicants respectfully submit that these amendments add no new matter to the application and are supported by the specification as originally filed. All the amendments are made in a good faith effort to advance the prosecution on the merits of this case.

**II. Remarks Regarding Rejections Under 35 U.S.C. § 102(b)**

Claims 1, 6, 8, 13, 25, and 26 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,024,171 issued to Montgomery *et al.* (hereinafter “*Montgomery*”). With respect to this rejection, the Final Office Action states:

Montgomery et al. disclose producing gas from a coal seam comprising: drilling a vertical well 12 that intersects a seam 18; bi-wing fracturing the seam, (“opposing . . . perforations” 38, 40; col. 5, line 28) below the fracture pressure, along a place of maximum stress (col. 4, lines 65-68), and which minimizes the creation of near-wellbore stress via cavitation (col. 4, lines 46-47), eroding the seam via a hydrajet 34a, 34b; and performing additional fracturing after the below-fracture-pressure hydrajetting (col. 5, line 34).

(Final Office Action at 2.) Applicants respectfully disagree. To form a basis for a § 102(b) rejection, a prior art reference or a combination of prior art references must disclose each and every element in the claim. MANUAL OF PATENT EXAMINING PROCEDURE (hereinafter “MPEP”) § 2131 (2007). Applicants respectfully submit that *Montgomery* does not disclose each and every element of independent claims 1 and 8.

Independent claim 1 recites the step of “fracturing the coal seam using a hydrajetting tool at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation *substantially along a plane of maximum stress.*” Similarly, independent claim 8 recites the step of “fracturing the coal seam along the substantially vertical well bore using a hydrajetting tool at a pressure less than a fracture pressure of the subterranean formation to

produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation *substantially along a plane of maximum stress.*” In contrast, *Montgomery* discloses a method whereby “two opposing vertical perforations” are formed by raising and lowering the hydrajet in the well bore. *See* col. 5, lines 24-26. Such a method results in the perforations 38 and 40 shown in Figures 6 and 7 of *Montgomery*. As clearly illustrated by Figures 6 and 7, the perforations 38 and 40 are not fractures substantially along a plane of maximum stress, but rather are merely openings that extend outwardly from the well bore. Indeed, nowhere does *Montgomery* disclose forming such perforations “substantially along a plane of maximum stress,” as recited in independent claims 1 and 8. Thus, *Montgomery* cannot anticipate these claims.

Furthermore, the Final Office Action cites col. 4, lines 65-68 of *Montgomery* as disclosing the formation of fractures along a plane of maximum stress. (Final Office Action at 2.) The cited portion of *Montgomery* states “[t]hese perforations function to create ‘gaps’ in the circle structure of the wellbore which weaken the wall of the wellbore and permit particles to move into the wellbore with fluids produced from the formation.” *See* col. 4, lines 65-68. This portion contains no disclosure of forming fractures along a plane of maximum stress.

Therefore, Applicants respectfully assert that independent claims 1 and 8 are not anticipated by *Montgomery*. Claims 25 and 26 have been cancelled herein. Claims 6 and 13 depend directly from independent claims 1 and 8, respectively, and therefore include all the elements of the independent claim from which they each depend. *See* 35 U.S.C. § 112 ¶ 4 (2004). Thus, claims 1, 6, 8, and 13 are allowable for at least the reasons cited above. Accordingly, Applicants respectfully request withdrawal of this rejection.

### **III. Remarks Regarding Rejections Under 35 U.S.C. § 103(a)**

#### **A. Claims 2, 3, 9, and 10**

Claims 2, 3, 9, and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Montgomery* in view of U.S. Patent 5,765,642 issued to Surjaatmadja (hereinafter “*Surjaatmadja*”). Claims 2, 3, 9, and 10 are dependent from independent claim 1 or 8 and therefore include all the elements of independent claim from which they each depend. *See* 35 U.S.C. § 112 ¶ 4 (2004). Thus, each of the claims rejected under 35 U.S.C. § 103(a) depends from a claim rejected under 35 U.S.C. § 102(b) as anticipated by *Montgomery*. As discussed above in Section II, *Montgomery* does not disclose or suggest “fracturing the coal seam using a hydrajetting tool at a pressure less than a fracture pressure of the subterranean formation-to

produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation *substantially along a plane of maximum stress*,” as recited in independent claim 1. Similarly, as discussed above in Section II, *Montgomery* does not disclose or suggest “fracturing the coal seam along the substantially vertical well bore using a hydrajetting tool at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation *substantially along a plane of maximum stress*,” as recited in independent claim 8. The Examiner merely relies on *Surjaatmadja* for the teaching of “using a hydrajetting tool . . . to perforate casing and drilling at least one horizontal well bore . . . into the coal seam.” (Final Office Action at 3.) As such, the combination of *Montgomery* and *Surjaatmadja* does not render claims 2, 3, 9, and 10 obvious. MPEP § 2143 (reference or combination of references must teach or suggest each and every element of the claim in order to anticipate the claim). Accordingly, Applicants respectfully request withdrawal of this rejection.

**B. Claims 4, 5, 11, and 12**

Claims 4, 5, 11, and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Montgomery* in view of U.S. Patent 6,280,000 issued to Zupanick (hereinafter “*Zupanick*”). Claims 4, 5, 11, and 12 are dependent from independent claims 1 or 8 and therefore include all the elements of the independent claim from which they each depend. *See* 35 U.S.C. § 112 ¶ 4 (2004). Thus, each of the claims rejected under 35 U.S.C. § 103(a) depends from a claim rejected under 35 U.S.C. § 102(b) as anticipated by *Montgomery*. As discussed above in Section II, *Montgomery* does not disclose or suggest “fracturing the coal seam using a hydrajetting tool at a pressure less than a fracture pressure of the subterranean formation-to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation *substantially along a plane of maximum stress*,” as recited in independent claim 1. Similarly, as discussed above in Section II, *Montgomery* does not disclose or suggest “fracturing the coal seam along the substantially vertical well bore using a hydrajetting tool at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation *substantially along a plane of maximum stress*,” as recited in independent claim 8. The Examiner has merely relied on *Zupanick* for the teaching of “removing water . . . and logging . . . a coal seam . . . in a horizontal well bore.” (Final Office Action at 4.) As such, the combination of *Montgomery* and *Zupanick*

does not render claims 4, 5, 11, and 12 obvious. MPEP § 2143. Accordingly, Applicants respectfully request withdrawal of this rejection.

**C. Claims 15-18, 20-23, 27, and 28**

Claims 15-18, 20-23, 27, and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Montgomery* in view of *Surjaatmadja* and *Zupanick*. Claims 16-18 and 21-23 depend directly from independent claims 15 and 20, respectively, and therefore include all the elements of the independent claim from which they each depend. *See* 35 U.S.C. § 112 ¶ 4 (2004). As discussed above in Section II with respect to independent claims 1 and 8, *Montgomery* does not disclose or suggest “fracturing the coal seam using a hydrajetting tool at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation *substantially along a plane of maximum stress*,” as recited in independent claim 15. Similarly, *Montgomery* does not disclose or suggest “fracturing the coal seam along the substantially vertical well bore using a hydrajetting tool at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation *substantially along a plane of maximum stress*,” as recited in independent claim 20. *Surjaatmadja* and *Zupanick* do not remedy this deficiency of *Montgomery*. Rather, the Examiner has merely relied on *Surjaatmadja* for the teaching of “using a hydrajetting tool . . . to perforate casing and drilling at least one horizontal well bore . . . into the coal seam” and on *Zupanick* for the teaching of “removing water . . . and logging . . . a coal seam . . . in a horizontal well bore.” (Final Office Action at 3-4.) As such, the combination of *Montgomery*, *Surjaatmadja* and *Zupanick* does not render claims 15-18, 20-23 obvious. MPEP § 2143. Claims 27 and 28 have been cancelled herein. Accordingly, Applicants respectfully request withdrawal of this rejection.

**IV. Remarks Regarding New Claims**

Applicants have added claims 29-36 herein. Each of these claims depends from independent claims 1, 8, 15, or 20 and therefore includes all of the elements of the independent claim from which it depends. *See* 35 U.S.C. § 112 ¶ 4 (2004). For at least the reasons discussed herein, Applicants respectfully submit that independent claims 1, 8, 15, and 20 are allowable over the cited references. Therefore, newly added claims 29-36 are also allowable for at least the reasons discussed above.

**V. No Waiver**

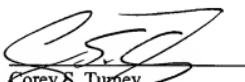
All of Applicants' arguments and amendments are without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the cited references. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner's additional statements. The example distinctions discussed by Applicants are sufficient to overcome the rejections in the Final Office Action.

**SUMMARY**

In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections. Applicants further submit that the application is now in condition for allowance, and earnestly solicits timely notice of the same. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

Applicants have authorized the Commissioner to debit the fee of \$810.00 for the RCE fee under 37 C.F.R. § 1.17(e) to the deposit account (Baker Botts L.L.P. Deposit Account No. 02-0383, Order Number 063718.0387) provided via the Office's electronic filing system. Should the Commissioner deem that any other fees are due, including any fees for extensions of time, Applicant respectfully requests that the Commissioner accept this as a Petition Therefor, and direct that any additional fees be charged to Baker Botts L.L.P. Deposit Account No. 02-0383, Order Number 063718.0387.

Respectfully submitted,



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